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May 24, 1996

Mr. William S. Caton
Federal Communications Commission
1919 M Street, N.W.; Room 222
Washington, D.C. 20554

Re: Notification of Ex Parte Contact in WT Docket No. 95-56

Dear Mr. Caton:

ProNet Inc. ("Pronet"), by its attorneys, hereby notifies the Commission of an ex parte contact in WT Docket No. 95-56. Today, David Wood, President of ProNet Tracking Systems, and Robert Pettit and myself from Wiley, Rein & Fielding, met with Rosalind Allen and D'wana Speight of the Wireless Telecommunications Bureau to discuss issues set forth in the attached documents.

Should any questions arise concerning this notification, please contact the undersigned at (202) 828-3182.

Respectfully submitted,

Eric W. DeSilva

Encl. (2)
cc (w/encl.): Rosalind Allen
D'wana Speight
Roger Noel

CAMPUS "PANIC ALERT" APPLICATIONS OF PRONET ETS TECHNOLOGY
May 24, 1996

Violent and non-violent crime on campuses and universities is a rising problem, especially for smaller institutions.

- Campuses and universities are, unfortunately, characterized by irregular hours for both students and faculty in buildings that are difficult to secure and often empty.

- As funds for education are decreased, campus and university security are stretched thinly over vast areas, many with multiple buildings, dark areas, and badly lit parking lots and recreational areas.

ProNet has available to it a "panic button" system derived from proven ETS technology that can be an effective deterrent to campus attacks.

- Students and faculty are issued keychains that incorporate ETS-type transmitters that can be activated in the event of danger simply by pressing a panic button.

- Campus security utilize ETS tracking technology to rapidly "zero in" on a potential incident and prevent loss of property, injury, or possibly death.

- ProNet has deployed its panic button technology on an experimental basis at Nazareth College near Rochester, New York. Users report excellent results.

- Campus and university security applications of ETS technology are consistent with the technical rules proposed for LPRS, but require minor modifications to the eligibility and permissible communications rules, as detailed in ProNet's comments.

Based on feedback from experimental deployments, ProNet has been requested to implement a "confirmation" signal for campus and security applications.

- Students, faculty, and security officers believe a confirmation signal indicating "help is on the way" would provide an effective deterrent to attacks in progress.

- Students and faculty have also indicated that the ability to "test" devices prior to entering dangerous areas would be beneficial.

- ProNet believes a "reverse" transmission to activate a second light in the panic device could be implemented simply and consistent with the technical rules for LPRS.

- The permissible communications rule proposed for the service permits only "one-way" communications, which appears to foreclose the use of an automatically triggered confirmation pulse.

- ProNet urges the Commission to modify the permissible communications rule to permit "one-way, or confirmatory or test, transmissions."

Tracking System Update

Index

History of the Tracking System

1972-1988

- Texas Instruments designs and operates (on experimental license) "Tracking System" to apprehend bank robbers (4 cities, 4,800 "TracPacs").

1988

- ProNet purchases all Tracking System technology from Texas Instruments.
- ProNet resumes process of securing permanent frequency for operation of the Tracking System.

When ProNet purchased ETS from Texas Instruments, the FCC granted the Experimental License's to ProNet under the express condition that ProNet make all efforts to change appropriate FCC rules to allow ETS to operate on a permanent basis. Initially, ProNet sought to comply with this condition in the 220-222 MHz allocation proceeding.

1988-1991

- ProNet supported FCC's proposal to create two hundred (200) 5 KHz channel pairs.
- FCC proposal did not provide for specific law enforcement channels. Thus, ProNet requested that the FCC designate ten (10) adjacent narrowband simplex channels for local and state public safety tracking needs and ten (10) similar channels for joint federal/state use.
- Significant public support in the record for ProNet's proposal. Nevertheless, the FCC decided only to set aside ten (10) public safety channels, which were limited to the Public Safety Radio Service. This decision did not help ProNet because only public officials (i.e. police) are eligible to be licensees under that band and private licensees, such as ProNet, would not be eligible.
- In response, the FCC directed that ProNet pursue a reallocation of spectrum for ETS in the 216-220 MHz band.

July 1991

- In response to this FCC decision, ProNet filed a Petition for Rulemaking and Request for Grant of Pioneer's Preference to operate permanently on the 218-219 MHz band.
- This reallocation was opposed by the Association for Maximum Television, Inc. ("MSTV") and Watercom, an AMTS licensee operating in this band.

September 1991

- Representatives of ProNet met with the following FCC officials regarding the status of ProNet's Petition for Rulemaking:

  Cheryl Tritt - Legal Advisor to Chairman Sikes
  Dr. Brian Fontes - Special Advisor to Commissioner Quello
  Stevenson Kaminer - Special Advisor to Commissioner Marshall

Madeline Kuchera & Robert Branson - Advisors to Commissioner Barrett
Leonard Kennedy - Senior Legal Advisor to Commissioner Duggan
Ralph Haller, Kent Nakamura, Ron Netro, and Beverly Baker - Private Radio Bureau
Fred Thomas, Rod Small & Jeff Kam - Officer of Engineering and Technology

June 1992

- ProNet met with FCC officials and advised them that the 218-219 MHz band would be unusable for ETS due to the IVDS and 220-222 MHz allocations that had just been approved by the Commission.

- The FCC recommended that ProNet amend its pending Petition for Rulemaking to propose other feasible channels. Thus in early 1993, ProNet informally requested that the FCC defer action on the Petition.

June 1992

- ProNet also met with Danny Coulson at the FBI to inform them of the threat to ETS and solicit their help in obtaining permanent spectrum.

July 1992

- ProNet sent numerous letters to members of Congress requesting their support in trying to obtain permanent spectrum for PTS to operate.

September 1992

- FBI Director, Bill Sessions, responds to a letter from Senator Lloyd Benson to the Attorney General's Office in which he requested pertinent information on the use of ProNet Tracking Systems (PTS).

October 1992

- ProNet met with the FBI to determine what level of support the FBI would be willing to provide.

December 1992

- ProNet met with Deputy Assistant Director - FBI Technical Branch, Kerr Boyd, to solicit his support on behalf of the Technical operations group for obtaining permanent spectrum.

February 1993

- ProNet met with Dave Siddell, Chief of the FCC's Frequency Allocation Branch, to discuss the possibly of staying somewhere in the 219-220 MHz band. However, FCC's March 1993 Notice of Proposed Rulemaking filed by the American Radio Relay League, to reallocate this band for the amateur service, forecloses its availability.

March 1993

- ProNet met with officials from NTIA, FCC & FBI to work on a plan to find available spectrum for PTS to operate.

- One possible alternative came out of this meeting and that was to talk to the Department of Commerce Spectrum planners about possibility of sharing the 403-406 MHz band with the National Weather Service. This band is used by the weather service and others to launch weather balloons for collecting meteorological data.

April 1993

- ProNet met with Dick Barth, Director of Radio Frequency Management for Department of Commerce, and representatives of the National Weather Service. We discussed the feasibility of using the 403-406 MHz band for the PTS operation. It was agreed that ProNet could build some prototype equipment that would operate in this band and conduct some tests with the National Weather Service to determine if there was any interference concerns.

August 1993

- ProNet met with representatives from MSTV (this group is the watchdog agency responsible for protecting the rights of the broadcast industry) to solicit their support for PTS operation in the 216-217 MHz band.

- MSTV suggested that we contact Phonic ear who had recently filed a Petition for Rulemaking to use 216-217 MHz for low power auditory assistance use to see if both parties could work together and perhaps file joint petition to the FCC.

October 1993

- ProNet met with Phonic representatives to discuss possibility of sharing the 216-217 MHz band. At this meeting it was decided that both companies could work together and would file supporting comments with the FCC to indicate such.

- ProNet modified its original Petition for Rulemaking and submitted a new Petition to operate PTS in the 216-217 MHz band.

May 1996

- FCC issued Notice of Proposed Rulemaking for 216-217 MHz band.

- Public response favorable for permanent LETS (Law Enforcement Tracking Service) channels as proposed by FCC.

- Congress passes 1991 Campus Security Act and subsequent acts which create demand for RF security devices.

- ProNet Tracking technology well suited to Campus Security.

- ProNet suggests XX frequencies be opened to Campus Security use.

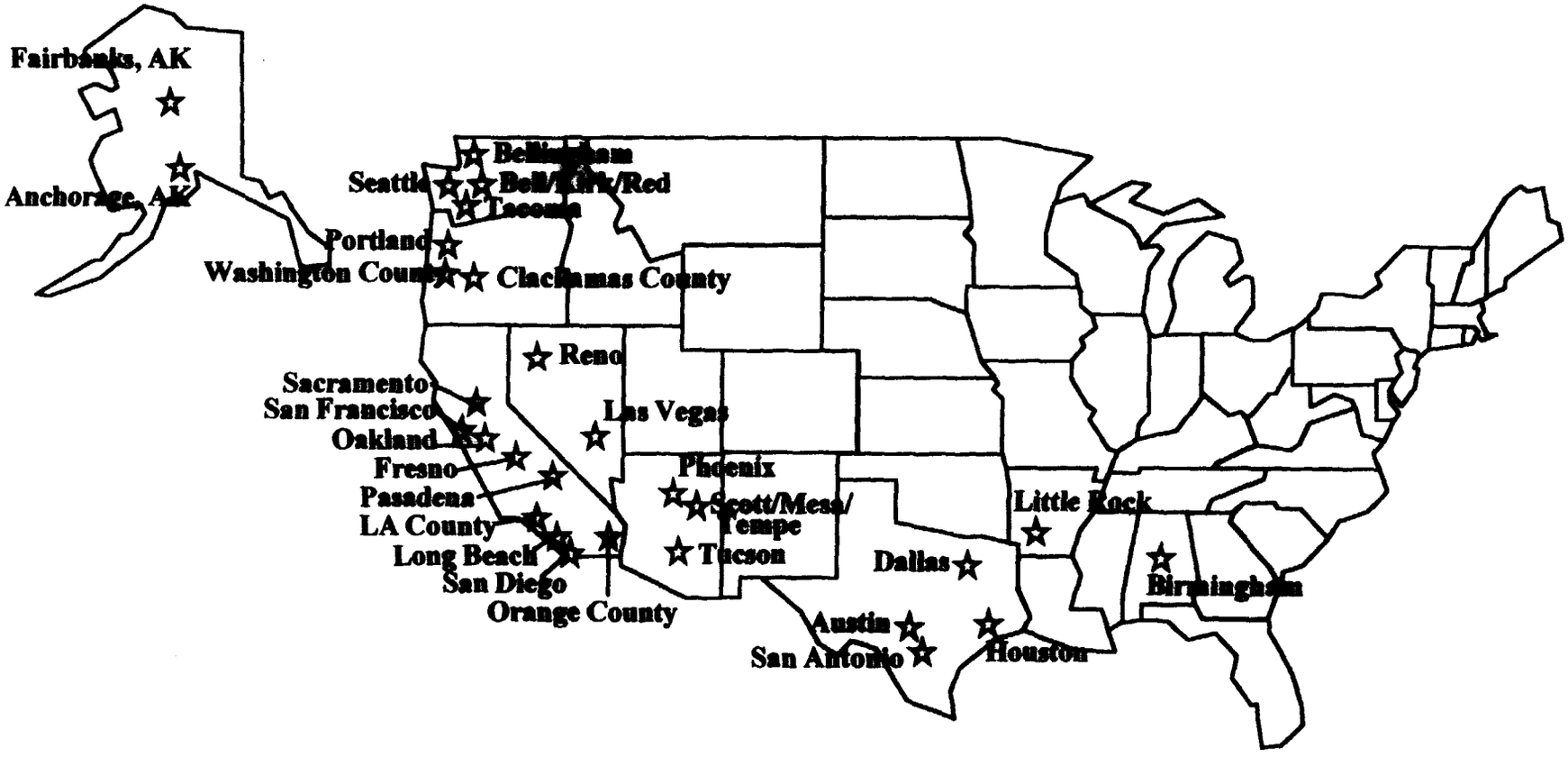
1988-1996

- ProNet expands to 30+ markets

- ProNet expands to 28,000 TracPacs

- Significant number of captures results in reduction of U.S. robberies - FBI

Operating Systems



ProNet Tracking Systems

ProNet Tracking Systems
Cities Installed

Southern California

Long Beach:
- Signal Hill

Los Angeles County:
- Artesia
- Bellflower
- Cerritos
- City of Industry
- Downey
- Hawaiian Gardens
- La Mirada
- Lakewood
- Norwalk
- Paramount
- Santa Fe Springs

Orange County:
- Anaheim
- Brea
- Buena Park
- City of Orange
- Costa Mesa
- Cypress
- Corona Del Mar
- El Toro
- Fountain Valley
- Fullerton
- Garden Grove
- Huntington Beach
- Irvine
- La Palma
- Los Alamitos
- La Habra
- Laguna Niguel
- Laguna Hills
- Mission Viejo
- Newport Beach
- Placentia
- Santa Ana
- San Clemente
- San Juan Cap.
- Seal Beach
- Stanton

Orange County (cont.)
- Tustin
- Villa Park
- Westminster
- Yorba Linda

Pasadena

Northern California

Fresno:
- Clovis

Oakland:
- Berkeley

Sacramento:
- Carmichael
- Citrus Heights
- Elk Grove
- Fair Oaks
- Folson
- Gold River
- Rancho Cordova
- Rio Linda
- Roseville

San Francisco

Northwest

Bellingham

Portland:
- Gersham
- Multnomah
- Washington Co.

Tacoma

Southwest

Las Vegas:
- N. Las Vegas

Phoenix

Tucson

Southwest (cont.)

Scottsdale, Mesa, Tempe

Reno:
- Carson City
- Centerville
- Douglas
- Dresserville
- Gardnerville
- Minden
- Sparks
- Sun Valley
- Washoe

Texas

Austin:
- Roundrock

Dallas:
- Addison
- Carrollton
- Richardson

Houston:
- Hedwig Village
- Spring Branch

San Antonio:
- Windcrest
- Alamo Heights

Other

Anchorage

Puerto Rico:
- Island of Puerto Rico
- San Juan

Little Rock:
- Sherwood
- Jacksonville
- N. Little Rock

ProNet Tracking Systems
Law Enforcement Agencies

ALASKA
- Anchorage Police Department

ARIZONA
- Mesa Police Department
- Phoenix Police Department
- Scottsdale Police Department
- Tempe Police Department
- Tucson Police Department

ARKANSAS
- Jacksonville Police Department
- Little Rock Police Department
- N. Little Rock Police Department
- Sherwood Police Department

CALIFORNIA
- Anaheim Police Department
- Berkeley Police Department
- Brea Police Department
- Buena Park Police Department
- City of Orange Police Department
- Clovis Police Department
- Costa Mesa Police Department
- Cypress Police Department
- Downey Police Department
- Fountain Valley Police Department
- Fresno Police Department
- Fullerton Police Department
- Garden Grove Police Department
- Huntington Beach Police Department
- Irvine Police Department
- La Habra Police Department
- La Palma Police Department
- Long Beach Police Department
- Los Alamitos Police Department
- Los Angeles Co. Sheriff's Office
- Newport Beach Police Department
- Oakland Police Department
- Orange County Sheriff's Dept.
- Pasadena Police Department
- Placentia Police Department
- Roseville Police Department
- Sacramento Police Department
- Sacramento Co. Sheriff's Office
- San Clemente Police Department
- San Francisco Police Department
- San Francisco Sheriff's Office
- Seal Beach Police Department
- Signal Hill Police Department
- Tustin Police Department
- Westminster Police Department

NEVADA
- Carson City Police Department
- Douglas Co. Sheriff's Office
- Las Vegas Police Department
- Minden/Gardenville Police Department
- N. Las Vegas Police Department
- Reno Police Department
- Sparks Police Department
- Washoe County Sheriff's Dept.

OREGON
- Beaverton Police Department
- Gresham Police Department
- Hillsboro Police Department
- King City Police Department
- Multnomah County Sheriff's Office
- Portland Police Bureau
- Tigard Police Department
- Tualatin Police Department
- Washington Co. Sheriff's Office

PUERTO RICO
- San Juan Police Department

TEXAS
- Addison Police Department
- Austin Police Department
- Carrollton Police Department
- Dallas Police Department
- Farmers Branch Police Department
- Hedwig Police Department
- Highland Park Police Department
- Houston Police Department
- Richardson Police Department
- San Antonio Police Department
- Spring Valley Police Department
- The Villages Police Department
- University Park Police Department
- Windcrest Police Department

WASHINGTON
- Bellingham Police Department
- Tacoma Police Department

[illegible] Customers
Banks

Addison National Bank
American Bank
American Bank of Commerce
American Commerce Nat. Bank
American Federal Svgs. Bank
American National Bank
Ameriway Bank
Antoine National Bank

Banco Central Corp.
Banco del Comerciod P.R.
Banco Popular
Banco Santander
Bank of America
Bank of Austin
Bank of Boston
Bank of Fresno
Bank of Newport
Bank of San Pedro
Bank One
Bayview Fed. Bank
Bellingham Natl. Bank
Bent Tree National Bank
Bluebonnet Svgs. Bank
Brookhollow National Bank

Calibur Bank
Capitol National Bank
Cattlemen's State Bank
Cerritos Valley Bank
Charter Bank
Chase Manhattan Bank
Citibank
Colonial Bank
Comeria Bank
Compass Bank
Comstock Bank
Continental Svgs. Bank
Cornerstone Bank
Corporate Bank
Crown Charter Bank
Cullen Frost Bank

El Dorado Svgs. Bank
Equitable Bank

Far East National Bank
First City
First Credit Bank
First Federal Svgs. Bank
First Interstate Bank
First NW Bank
First State Bank
First Texas Bank
First Western Bank
Founders National Bank
Franklin Federal Bancorp

Gateway Bank
Great Am. Bank
Guaranty Fed. Svgs. Bank

Home Bank
Houston Independent Bank
Huntington National Bank

Inwood National Bank

Key Bank

Liberty National Bank

Marine National Bank
Metro Bank
Mother Lode Svgs. Bank

National Bank of Alaska
National Bank of Commerce
NationsBank
Nevada Community Bank
N. Dallas Bank & Trust
N. Pacific Bank
Northpark National Bank
NW Community Bank

Pacific First Bank
Park Forest Natl. Bank
Pioneer Citizens Bank
Ponce Fed. Bank
Post Oak Natl. Bank
Primerit Svgs. Bank
Promenade Bank
Provident Bank
Puget Sound Bank

Queen City Bank
Questar Bank

Regency Bank
Riverbend Bank
River Oaks Bank
Riverway Bank

Santander Fed. Svgs. Bank
Santander Natl. Bank
Scotia Bank de P.R.
Seafirst Bank
Security Pacific Bank
S. California Bank
SW Bank of Texas
State Bank & Trust
Stemmons NW Bank
Sun State Bank
Swiss Avenue Bank

Team Bank
Texas Bank & Trust
Texas Commerce Bank
Texas First Natl. Bank
Town North Natl. Bank

Union Bank
United American Bank
United Labor Bank
U.S. Bank
University Svgs. Bank

Valley Bank

Wells Fargo
West One Bank

PTS Customers
Credit Unions/Savings & Loans

Alaska USA Federal CU
Alaskan Federal CU
American Central CU
American First Fed. CU
Anaheim Area CU
Arizona FCU
Atlantic Financial Svgs.
Austin CU Manag.
Austin Federal CU
Austin Municipal FCU
Austin Teachers CU
Austin Telco CU

Bergstrom Fed. C.U.
BN West CU

Capitol CU
Century Federal Svgs.
Communicators Fed. CU
Community CU
Consolidated Fed. CU

Dallas Chapter CU
Dallas Fed. CU

Electra CU

Farm & Home Svgs.
Fedalaska Fed CU
Fireside Thrift & Loan
First CA. FCU
First Federal CU
Fred Meyer Fed. CU
First Western Svgs.
Freedom Fed. Svgs.
Fullerton Svgs. & Loan

GAPAC Empl. FCU
Gentelco Fed. CU
Golden One CU
Golden West Cities Fed. CU
Government Emp. CU
Great Basin Fed. CU
Greater Texas Fed. CU

HEB Credit Union
Homestead Svgs.
Horizon CU
Horizon Savings
Houston Police CU
Hughes Aircraft Empl FCU

IBEW & United Workers CU
IBEW Plus CU
IBM Tx. Empl. Fed. CU
Industrial Credit Union
Intalco Empl. CU
Ironworkers Fed. CU

Jantzen Empl. CU

Legacy Fed. CU
Long Beach Gentelco FCU
Long Beach Postal CU
Luke FCU

Marine Air Fed. CU
Metro-Medical Fed. CU
Mountain View FCU
Multco CU

Orange Co. FCU
Orange Co. Postal CU
Oregon Central CU
Oregon CU League
Oregon FCU
Oregon Rails Fed. CU
Oregonian Fed. CU
Otis CU

Pacific Empl. CU
Pacific Northwest Fed. CU
Patelco CU
Portland A.C. Emp. CU
Portland Post Emp. CU
Portland Teachers CU
Primerit Svgs. & Loan
Providence Hosp. CU
Public Empl. CU

Rose City Fed. CU

SAFCU Center CU
S.P. Sparks Empl. Fed. CU
Safeway NW Central CU
Sirerra Pacific Empl. CU
Sierra Schools Fed. CU
Silver State Schl. Fed. CU
SW Airlines CU
SW Health Care CU
So Val Tel FCU
Sparks City Empl. Fed. CU
State Center CU
State Empl. CU
Sunbelt Federal Svgs.

Tacoma Postal FCU
Texas FCU
Texas Health Dept. CU
Texas Star Fed. CU
Trucking Empl. Fed. CU

UFCW NW Fed. CU
United NW Fed CU
United Savings
University Fed. CU

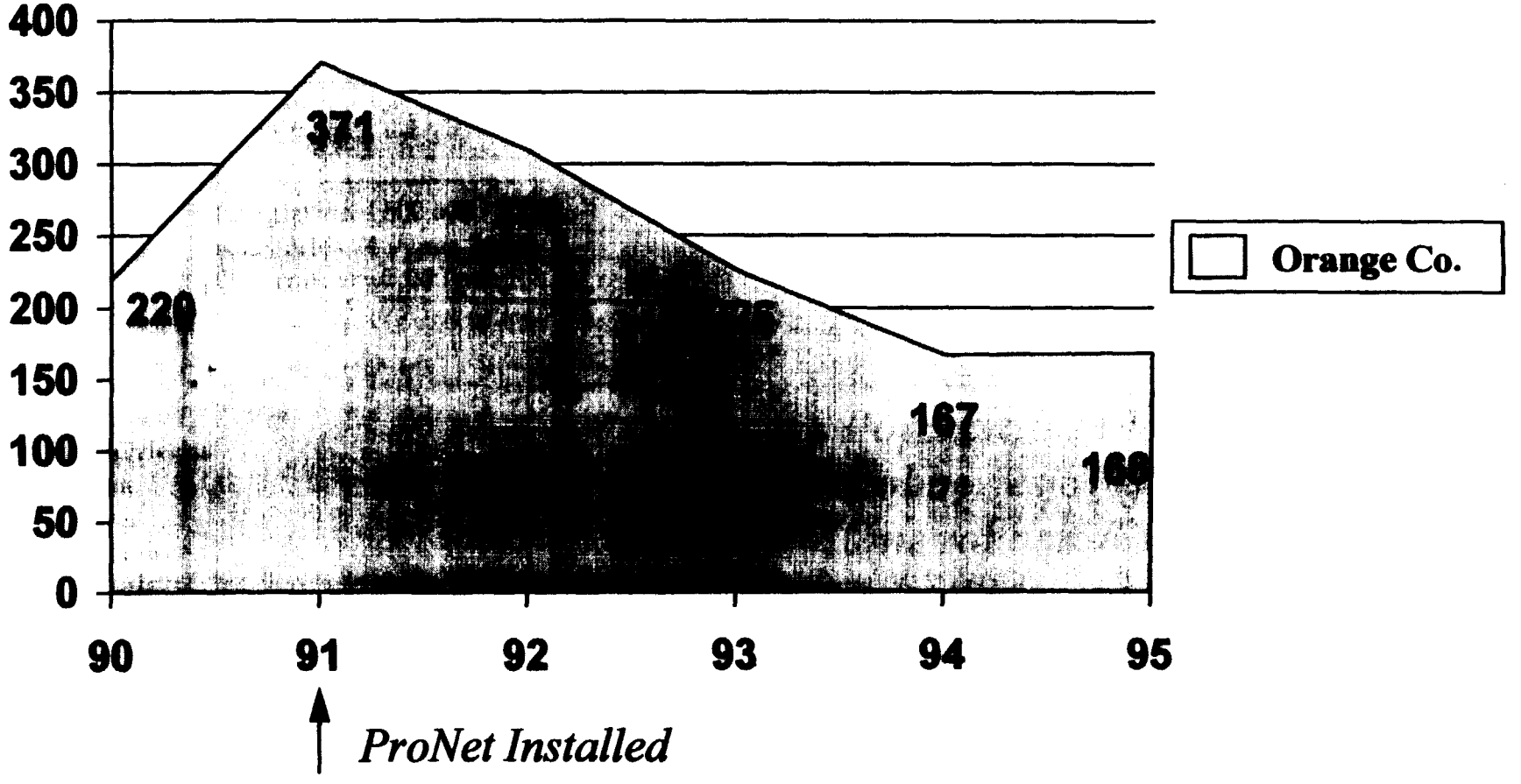
Westop CU.
Western Federal Savings
Weststar Fed. CU
Whatcom Ed. CU
Wood Products CU

Future Tracking Installations Approved for Scheduling

City	Police Department
Fort Worth, TX	Fort Worth PD
Atlanta, GA	Atlanta PD
Baltimore, MD	Baltimore PD
Miami, FL	Miami PD
Orlando, FL	Orlando PD
Milwaukee, WI	Milwaukee PD
San Jose, CA	San Jose PD
Boston, MA	Boston PD
Philadelphia, PA	Philadelphia PD

Orange County Robberies

1990 thru 1995



PRONET TRACKING

Texas Bank Robbery Reduction
City Comparison

Seattle
Miami
Philadelphia
San Jose
Atlanta

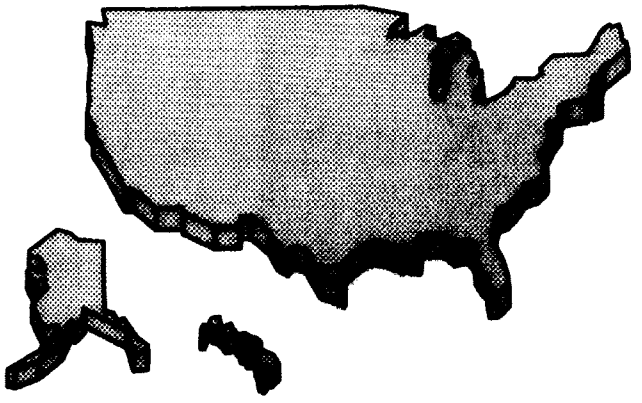
Population 4,500,000
Robberies 746/year, 1995
One robbery/5,000 people

Dallas
San Antonio
Austin
Houston

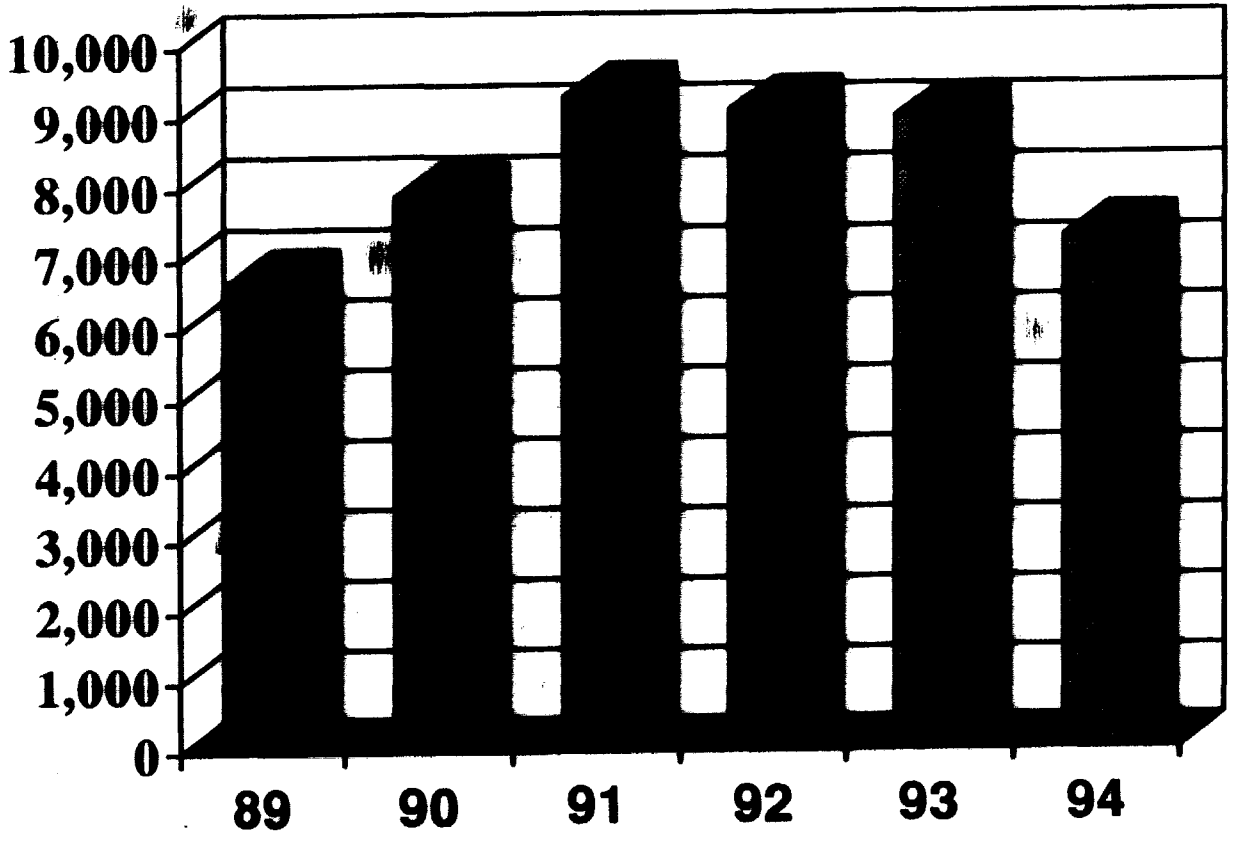
Population 4,500,000
Robberies 67/year, 1995
One robbery/67,000 people

Detroit
Cleveland
New Orleans
Boston
Denver
Milwaukee
St. Louis
Kansas City

Population 4,500,000
Robberies 768/year, 1995
One robbery/5,860 people



U.S. Bank Robberies



ProNet Tracking Systems Statistics

	April 1996 YTD	Last 12 Months
All PTS Systems:		
Incidents (with TracPacs given)	93	317
Captures	37	138
$ Recovered	$353,521	$968,173

Frequency Requirements

The graph entitled "Incident RF Power in PTS Receiver Passband" (Figure 1) shows the issue of concern regarding frequency spectrum allocation. On initial inspection, it appears that the PTS transmitter has some amount of headroom over the residual energy from users on either side. While this is true, the real concern is the magnitude of this residual energy inside the PTS receiver desense curve as shown in red.

Noting that the graphs vertical axis is logarithmic, it can be seen that even the lower energy level from the 220 - 222 MHz Narrowband Radio Service is on the order of one million times the power necessary to activate the PTS receiver (at the receiver's tuned frequency). The out-of-band energy from the IVDS Radio Service, is even more severe due to less stringent frequency specifications. If an interfering source is transmitting while a track is in progress, The PTS receiver will no longer be capable of "hearing" the PTS transmitter because the stronger interfering signal has caused the PTS receiver to listen to it instead.

An analogy would be like two people listening to different radio stations in the same room. One person is listening to station A at a normal volume, and the other person is listening to Station B at maximum volume. Both people only hear Station B's program until Station B is turned off or the radio playing Station B is removed from the room.

The PTS receiver, due to its sensitivity, has the ability to pick up a signal that conventional radios would never "hear". However, this keen sensitivity causes the PTS receiver to be adversely affected by nearby radio transmissions. This effect is also aggravated as the distance between the PTS transmitter and the PTS receiver is increased. The real-world result of this phenomenon is that the PTS receiver's tracking range will be severely reduced when it is operating in close proximity to an interfering source.

To minimize the adverse effect of these transmissions, some degree of compromise is possible if the interfering sources are mobile in nature or they see only intermittent use. In the past, both conditions were true for the original PTS frequency allocation (216 - 220 MHz). Those who were closest in frequency were typically intermittent, mobile users; while the higher power users on the low side were geographically well separated in addition to being intermittent.

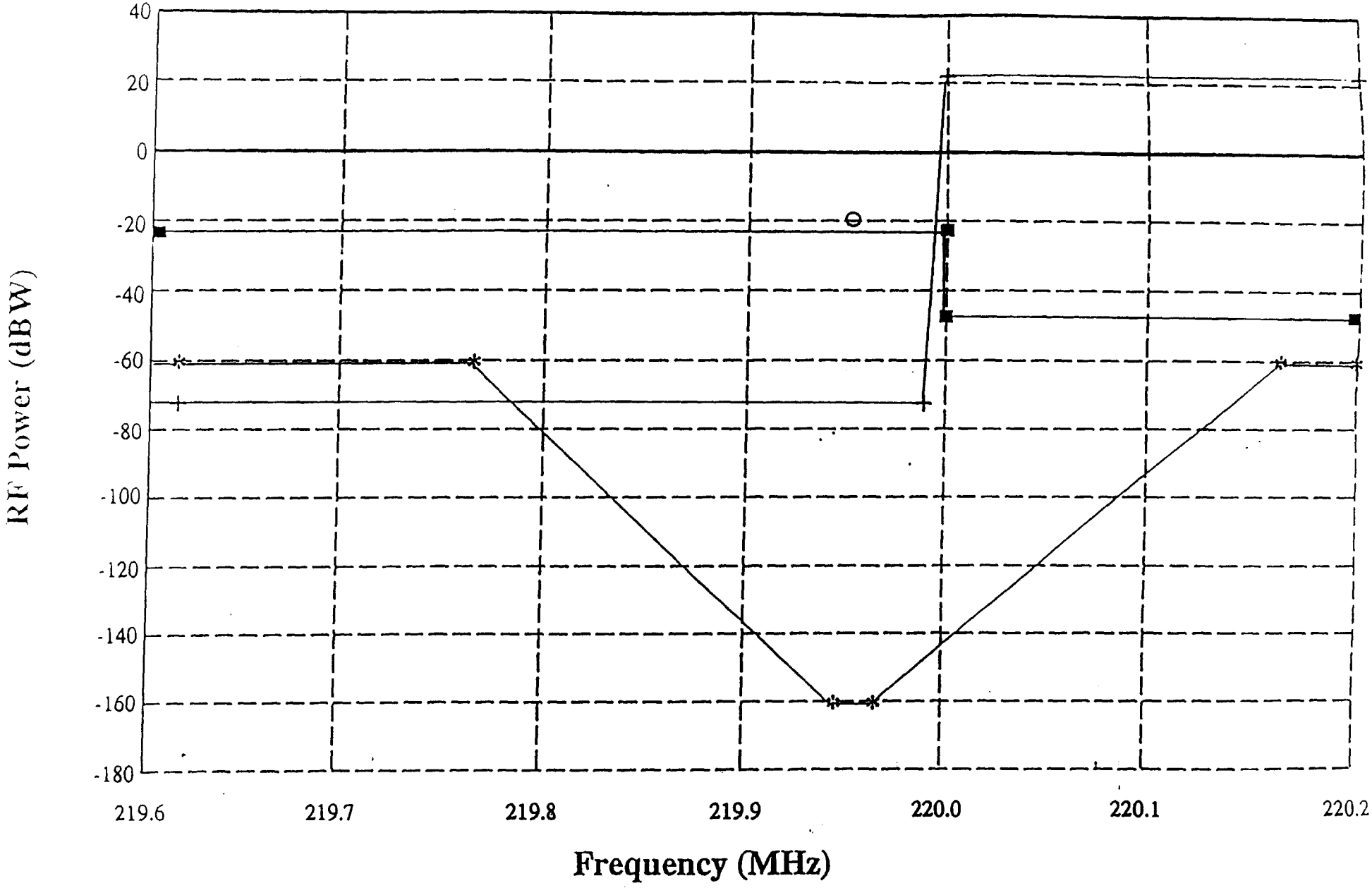
The recent FCC frequency allocations for Interactive Video Data Services (IVDS) and the 220 - 222 MHz Narrowband technology will be neither isolated nor intermittent, and will cause the effectiveness of the PTS Tracking System to become useless.

In trying to locate spectrum in which the PTS System can operate, a similar analysis should be undertaken for each prospective choice. The best selection would be one which provides minimum encroachment into the PTS receiver's desense curve, as shown in Figure 1.

Finally, the PTS transmitter should be compatible with other low power users due to its mobility and the intermittent nature of its operation.

[redacted]

Incident RF Power in PTS Receiver Passband



Figur

Channel 13 TV Interference Test

Type Set	Year	Range for No Interference
JVC - 19"	92	< 1 FT
JVC - 27"	92	< 3 FT
DAYTRON - 19"	80	< 27 FT
MAGNAVOX - 19"	85	< 20 FT
ZENITH - 19"	85	< 25 FT
PANASONIC - 12"	85	< 25 FT
BLK & WHT - 10"	80	< 30 FT

The above test were conducted with a 100 mW, 216.8 MHz PTS Beacon with external rabbit ear antennas on the TV sets which were tuned for weak signal reception of Ch 13. In all cases, the range is the distance from the TV at which no observable interference occurred.

These measurements were made in Dallas at nominal ranges of 40 miles from the Ch 13 TV tower.

In bench tests, the effective power output of the Tag Signal which causes noticeable video interference to a TV set at 214 MHz is -75 dBm. For a typical TV sensitivity of -95 dBm, the total pathloss required to prevent this type of interference is 20 dB. This correlates to approximately one wavelength away from the TV which would be 4.5 feet.

The interference caused by the peak power from a PTS beacon is shown in the PTS Tag Spectrum (see figure 2). The inteference generated by the tag is -48 dBm at the sound carrier frequency. The required path loss to prevent interference would be the difference between a typical TV's receiver sensitivity (-95dBm) and the interfering signal level of -48 dBm. Therefore, the isolation or path loss needed to prevent interfernce is 47 dB. The PTS beacon has a -10 dB gain antenna which means that we would need an additional path loss of 37 dB. To achieve the additional 37 dB of path loss, a distance of 25 feet is required between the beacon and the TV receiver.

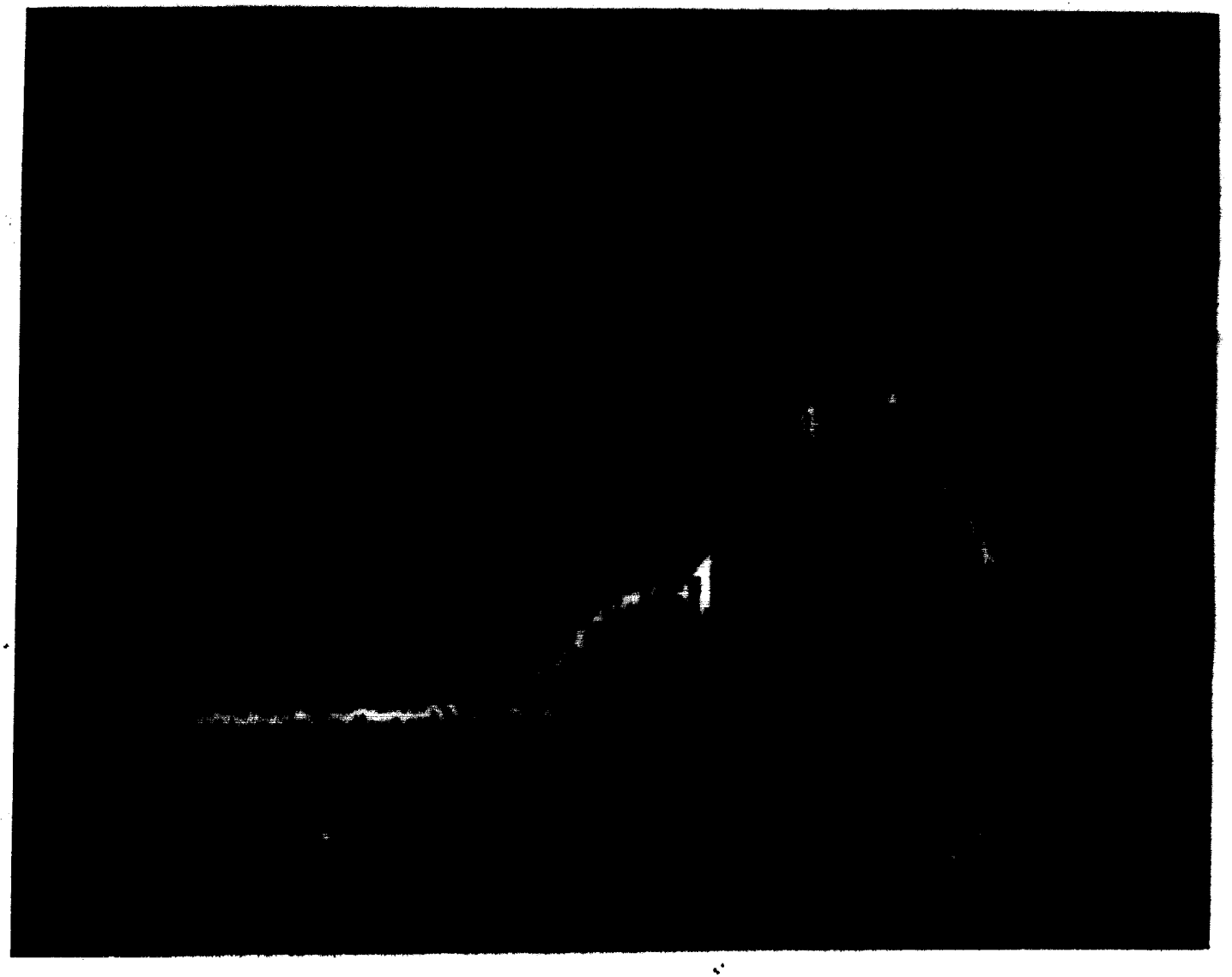
Summary Table Based On Peak Spectrum Levels (30 KHz BW)

Interference Level at Ch-13 Sound Carrier	=	-48 dBm
Typical TV Receiver Sensitivity	=	-95 dBm
Required Path Loss For No Interference	=	-47 dB
Less PTS Tag Antenna Loss	=	-10 dB
Adjusted Path Loss For No Interference	=	-37 dB
Equivlent Distance (Wavelengths/Feet)	=	5.6/25 ft

Average power levels are typically 20 db below peak levels

PTS TAG SPECTRUM (216.8 MHz, 90 Hz MODULATION)

PEAK LEVELS MEASURED IN A 30 kHz BAND WIDTH

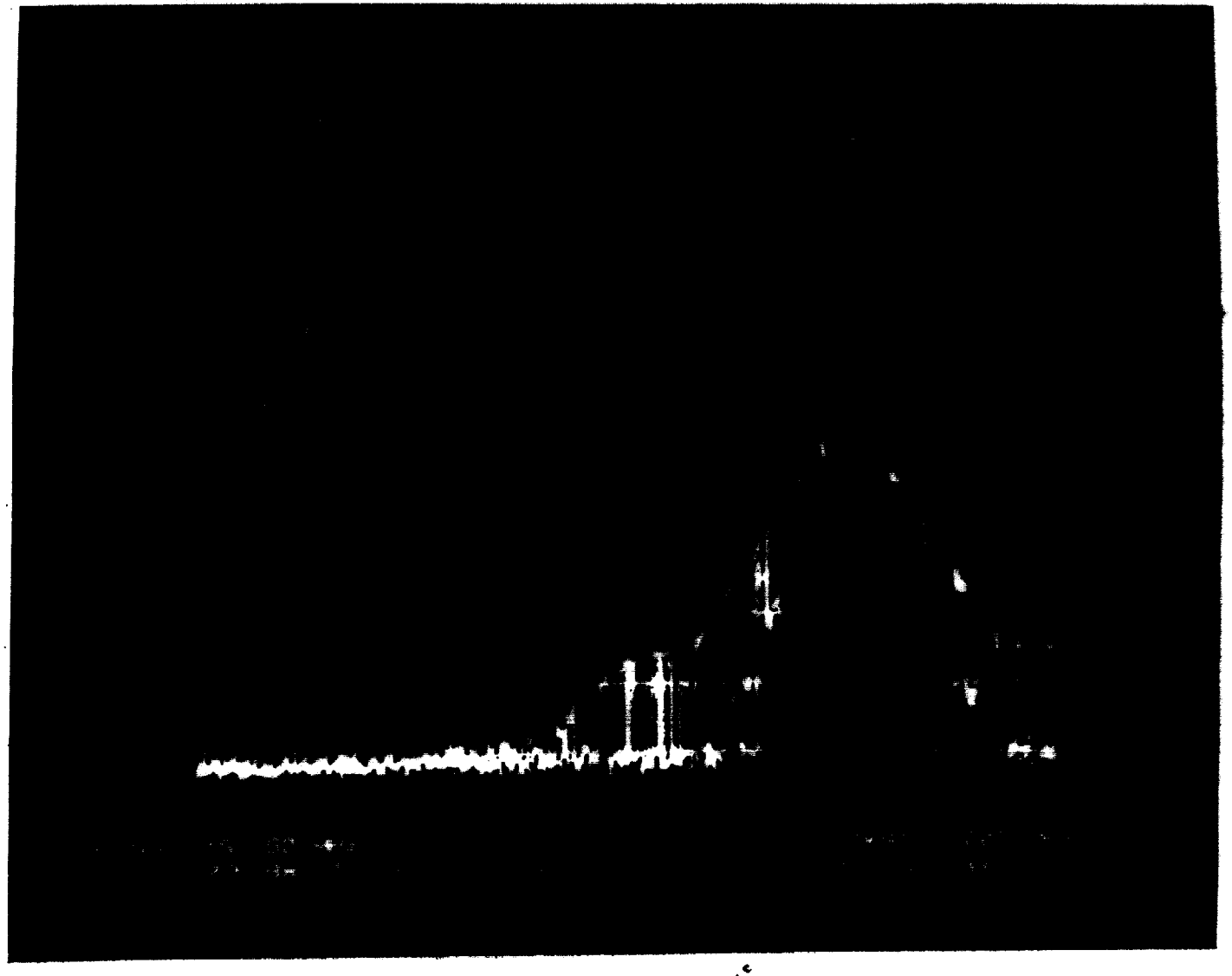


CENTER FREQUENCY = CH-13 SOUND CARRIER
PEAK LEVEL = 67.7 DBC

Figure 2

PTS TAG SPECTRUM (216.8 MHz, 90 Hz MODULATION)

PEAK LEVELS MEASURED IN A 10 kHz BAND WIDTH



CENTER FREQUENCY = CH-13 SOUND CARRIER

PEAK LEVEL = 76.2 DBC

Figure 3

Channel 13 De-Sense Levels For Ground Trackers (*)

(De-Sense Level IN db) / [% of Available Tracking Range]

Distance from Ch-13 (Miles)

PTS Frequency	0 -> 5	5 -> 10	-> 10
219.96 MHz	(10) / [72%]	(0) / [100%]	(0) / [100%]
216.80 MHz	(12) / [64%]	(0) / [100%]	(0) / [100%]
216.40 MHz	(15) / [58%]	(1) / [99%]	(0) / [100%]

(*) Based on a nominal receiver sensitivity of -130 dBm

Channel 13 De-Sense Levels For Remotes & Helicopters (*)

(De-Sense Level in db) / [% of Available Tracking Range]

Distance from Ch-13 (Miles)

PTS Frequency	0 -> 5	5 -> 10	-> 10
219.96 MHz	(17) / [52%]	(11) / [70%]	(5) / [85%]
216.80 MHz	(20) / [48%]	(14) / [62%]	(8) / [78%]
216.40 MHz	(21) / [45%]	(14) / [62%]	(9) / [75%]

(*) Based on a nominal receiver sensitivity of -130 dBm

Summary of Letters
Law Enforcement

Name	Title	Law Enforcement Department
Richard Alves	Coordinator, Robbery Apprehension Team	San Francisco Police Department
Charles Brobeck	Chief of Police	Irvine Police Department
John Brunner	Lt. #820, Robbery Section	San Francisco Police Department
D G Coppa	Undersheriff	Washoe County Sheriff's Office
Phil Davis	Captain, Technical Services Division	Sacramento Police Department
L R DeVore	Commander, Investigations Division	Sacramento County Sheriff's Department
Lee Dolum	Deputy Chief, Office of Administrative Services	Sacramento Police Department
Albert Ehlow	Chief of Police	San Clemente Police Department
D L Forkus	Chief of Police	Brea Police Department
Steve Foster	Captain, Operations Division Commander	Tustin Police Department
Bobby Gillman	Special Agent in Charge	FBI - Dallas, Texas
Philip Goehring	Chief of Police	Fullerton Police Department
Karen Goesch	Sheriff's ETS Coordinator	Sacramento County Sheriff's Department
Charles Gruber	Chief of Police	Shreveport Police Department
Jim Guess	Chief of Police	Los Alamitos Police Department
Ronald Hansen	Chief of Police	Fayetteville Police Department
Ray Hawkins	Deputy Chief of Police	Dallas Police Department
Dennis Jefcoat	Senior Police Officer	Costa Mesa Police Department
G. Patrick Johnson	Supervisor, Violent Crimes	FBI - Atlanta, Georgia
Stanley Kantor	Acting Chief of Police	Anaheim Police Department
Richard Kirkland	Interim Chief of Police	Reno Police Department
Robert Kliesmet	International President	International Union of Police Association
Ronald Lowenberg	Chief of Police	Huntington Beach Police Department
Michael McCrary	Chief of Police	Signal Hill Police Department
Richard McKee	Captain, Communications Bureau	Las Vegas Metropolitan Police Department
Ronald Meehan	Chief of Police	La Habra Police Department
Joseph Molloy	Chief of Police	Anaheim Police Department
Robin Montgomery	Special Agent in Charge	FBI - Portland, Oregon
John Moran	Sheriff	Las Vegas Metropolitan Police Department
Manuel Ortega	Chief of Police	Placentia Police Department
Donald Pierce	Chief of Police	Bellingham Police Department
William Rathburn	Chief of Police	Dallas Police Department
Bobby Richardson	Captain, Communictions Systems Supervisor	Highland Park Police Department
Lyle Rodabough	Captain, General Investigations Bureau	Phoenix Police Department
Steven Ruteshouser	Sgt., Robbery Division	Houston Police Department.
W D Stearns	Chief of Police	Seal Beach Police Department
Gary Taylor	ETS Coordinator	Addison Police Department
Richard Tefank	Chief of Police	Buena Park Police Department
Thomas Van Doren	Assistant Chief of Police	University Park Police Department
Paul Walters	Chief of Police	Santa Ana Police Department
Elizabeth Watson	Chief of Police	Houston Police Department
Richard Whitaker	Supervisory Special Agent	FBI - Las Vegas, Nevada
Steve Williams	Detective, Robbery/Homicide Division	Fountain Valley Police Department

Summary of Letters
Financial Institutions

Name	Title	Financial Institution Name
C. Kenneth Arnold	Vice President, District Security	Federal Reserve Bank of San Francisco
William L. Bell	Security Director	First Interstate Bank
James L. Beveridge	Vice President, Security Director	Bank One, Texas
Robert Burns	Manager	Multco Credit Union
Richard J. Carr	Vice President, Director of Security	United Savings, FSB
Monte C. Dunn	AVP/Director, Corporate Security	Sunbelt Savings, FSB
Jimmy Gastineau	Security Officer	Valley Bank of Nevada
Walter R. Heilner	Vice President and Senior Deputy Director	Bank of America
Mary B. Hudson	AVP/Financial Operations	Bellingham National Bank
Keith D. Marshall	Vice President, Deputy Director of Security	First Interstate Bank
Arnold E. Nielsen	Vice President, Director of Security	Century Federal Savings & Loan Assoc.
J. Roger Ouellette	Director of Security	PriMerit Bank
Thomas J. Patrick	Executive Director	Southwestern Automated Clearing House
Ronald L. Renfro	AVP/Security Manager	Wells Fargo Bank
Robert D. Sanders	Security Department	NationsBank Texas
Steven R. Shulman	Vice President, Director of Security	Mercury Savings and Loan Association